BioMap and Living Waters

Guiding Land Conservation for Biodiversity in Massachusetts

Core Habitats of Newbury

This report and associated map provide information about important sites for biodiversity conservation in your area.

This information is intended for conservation planning, and is not intended for use in state regulations.

Produced by:

Natural Heritage & Endangered Species Program
Massachusetts Division of Fisheries and Wildlife
Executive Office of Environmental Affairs
Commonwealth of Massachusetts

Produced in 2004

BioMap and Living Waters:
Guiding Land Conservation for Biodiversity in Massachusetts

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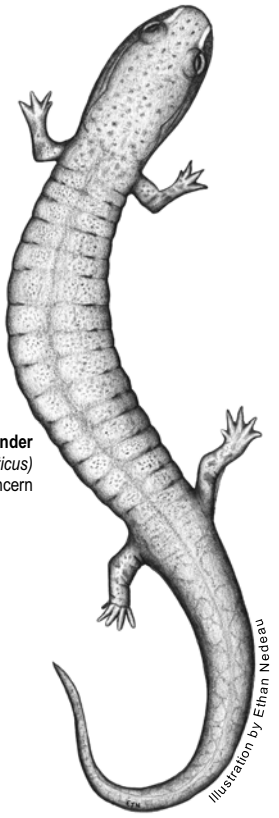
* Depending on the location of Core Habitats, your city or town may not have all of these sections.



Spring Salamander
(Gyrinophilus porphyriticus)
Species of Special Concern

Funding for this project was made available by the Executive Office of Environmental Affairs, contributions to the Natural Heritage & Endangered Species Fund, and through the State Wildlife Grants Program of the US Fish & Wildlife Service.

Natural Heritage & Endangered Species Program

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For more information on rare species and natural communities, please see our fact sheets online at ***www.nhesp.org***

BioMap and Living Waters:
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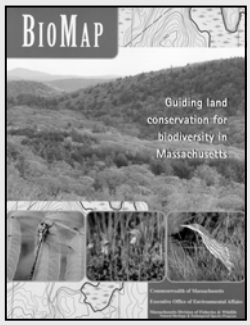
Introduction

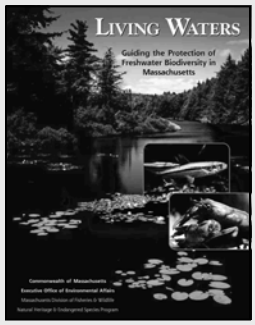
In this report, the Natural Heritage & Endangered Species Program provides you with site-specific biodiversity information for your area. Protecting our biodiversity today will help ensure the full variety of species and natural communities that comprise our native flora and fauna will persist for generatons to come.

The information in this report is the result of two statewide biodiversity conservation planning projects, ***BioMap*** and ***Living Waters***. The goal of the BioMap project, completed in 2001, was to identify and delineate the most important areas for the long-term viability of terrestrial, wetland, and estuarine elements of biodiversity in Massachusetts. The goal of the Living Waters project, completed in 2003, was to identify and delineate the rivers, streams, lakes, and ponds that are important for freshwater biodiversity in the Commonwealth. These two conservation plans are based on documented observations of rare species, natural communities, and exemplary habitats.

What is a Core Habitat?

Both BioMap and Living Waters delineate ***Core Habitats*** that identify the most critical sites for biodiversity conservation across the state. Core Habitats represent habitat for the state's most viable rare plant and animal populations and include exemplary natural communities and aquatic habitats. Core Habitats represent a wide diversity of rare species and natural communities (see Table 1), and these areas are also thought to contain virtually all of the other described species in Massachusetts. Statewide, BioMap Core Habitats encompass 1,380,000 acres of uplands and wetlands, and Living Waters identifies 429 Core Habitats in rivers, streams, lakes, and ponds.





Get your copy of the ***BioMap*** and ***Living Waters*** reports! Contact Natural Heritage at 508-792-7270, Ext. 200 or email natural.heritage@state.ma.us. Posters and detailed technical reports are also available.

Core Habitats and Land Conservation

One of the most effective ways to protect biodiversity for future generations is to protect Core Habitats from adverse human impacts through land conservation. For Living Waters Core Habitats, protection efforts should focus on the ***riparian areas***, the areas of land adjacent to water bodies. A naturally vegetated buffer that extends 330 feet (100 meters) from the water's edge helps to maintain cooler water temperature and to maintain the nutrients, energy, and natural flow of water needed by freshwater species.

In Support of Core Habitats

To further ensure the protection of Core Habitats and Massachusetts' biodiversity in the long-term, the BioMap and Living Waters projects identify two additional areas that help support Core Habitats.

In BioMap, areas shown as ***Supporting Natural Landscape*** provide buffers around the Core Habitats, connectivity between Core Habitats, sufficient space for ecosystems to function, and contiguous undeveloped habitat for common species. Supporting Natural Landscape was

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generated using a Geographic Information Systems (GIS) model, and its exact boundaries are less important than the general areas that it identifies. Supporting Natural Landscape represents potential land protection priorities once Core Habitat protection has been addressed.

In Living Waters, ***Critical Supporting Watersheds*** highlight the immediate portion of the watershed that sustains, or possibly degrades, each freshwater Core Habitat. These areas were also identified using a GIS model. Critical Supporting Watersheds represent developed and undeveloped lands, and can be quite large. Critical Supporting Watersheds can be helpful in land-use planning, and while they are not shown on these maps, they can be viewed in the Living Waters report or downloaded from www.mass.gov/mgis.

Understanding Core Habitat Species, Community, and Habitat Lists

What's in the List?

Included in this report is a list of the species, natural communities, and/or aquatic habitats for each Core Habitat in your city or town. The lists are organized by Core Habitat number.

For the larger Core Habitats that span more than one town, the species and community lists refer to the entire Core Habitat, not just the portion that falls within your city or town. For a list of all the state-listed rare species within your city or town's boundary, whether or not they are in Core Habitat, please see the town rare species lists available at www.nhesp.org.

The list of species and communities within a Core Habitat contains only the species and natural communities that were explicitly included in a given BioMap or Living Waters Core Habitat. Other rare species or examples of other natural communities may fall within the Core Habitat, but for various reasons are not included in the list. For instance, there are a few rare species that are omitted from the list or summary because of their particular sensitivity to the threat of collection. Likewise, the content of many very small Core Habitats are not described in this report or list, often because they contain a single location of a rare plant

Table 1. The number of rare species and types of natural communities explicitly included in the BioMap and Living Waters conservation plans, relative to the total number of native species statewide.

BioMap

	Species and Verified Natural Community Types	
Biodiversity Group	**Included in BioMap**	**Total Statewide**
Vascular Plants	246	1,538
Birds	21	221 breeding species
Reptiles	11	25
Amphibians	6	21
Mammals	4	85
Moths and Butterflies	52	An estimated 2,500 to 3,000
Damselflies and Dragonflies	25	An estimated 165
Beetles	10	An estimated 2,500 to 4,000
Natural Communities	92	> 105 community types

Living Waters

	Species	
Biodiversity Group	**Included in Living Waters**	**Total Statewide**
Aquatic Vascular Plants	23	114
Fishes	11	57
Mussels	7	12
Aquatic Invertebrates	23	An estimated > 2500

species. Some Core Habitats were created for suites of common species, such as forest birds, which are particularly threatened by habitat fragmentation. In these cases, the individual common species are not listed.

What does 'Status' mean?

The Division of Fisheries and Wildlife determines a status category for each rare species listed under the Massachusetts Endangered Species Act, M.G.L. c.131A, and its implementing regulations, 321 CMR 10.00. Rare species are categorized as Endangered, Threatened, or of Special Concern according to the following:

- ***Endangered*** species are in danger of extinction throughout all or a significant portion of their range or are in danger of extirpation from Massachusetts.
- ***Threatened*** species are likely to become Endangered in Massachusetts in the foreseeable future throughout all or a significant portion of their range.
- ***Special Concern*** species have suffered a decline that could threaten the species if allowed to continue unchecked or occur in such small numbers or with such restricted distribution or specialized habitat requirements that they could easily become Threatened in Massachusetts.

In addition, the Natural Heritage & Endangered Species Program maintains an unofficial ***watch list*** of plants that are tracked due to potential conservation interest or concern, but are not regulated under the Massachusetts Endangered Species Act or other laws or regulations. Likewise, described natural communities are not regulated any laws or regulations, but they can help to identify ecologically important areas that are worthy of protection. The status of natural communities reflects the documented number and acreages of each community type in the state:

- ***Critically Imperiled*** communities typically have 5 or fewer documented sites or have very few remaining acres in the state.
- ***Imperiled*** communities typically have 6-20 sites or few remaining acres in the state.
- ***Vulnerable*** communities typically have 21-100 sites or limited acreage across the state.
- ***Secure*** communities typically have over 100 sites or abundant acreage across the state; however excellent examples are identified as Core Habitat to ensure continued protection.

Legal Protection of Biodiversity

BioMap and Living Waters present a powerful vision of what Massachusetts would look like with full protection of the land that supports most of our biodiversity. To create this vision, some populations of state-listed rare species were deemed more likely to survive over the long-term than others.

Regardless of their potential viability, all sites of state-listed species have full legal protection under the Massachusetts Endangered Species Act (M.G.L. c.131A) and its implementing regulations (321 CMR 10.00). Habitat of state-listed wildlife is also protected under the Wetlands Protection Act Regulations (310 CMR 10.37 and 10.59). The ***Massachusetts Natural Heritage Atlas*** shows **Priority Habitats**, which are used for regulation under the Massachusetts Endangered Species Act and Massachusetts Environmental Policy Act (M.G.L. c.30) and **Estimated Habitats**, which are used for regulation of rare wildlife habitat under the Wetlands Protection Act. For more information on rare species regulations, see the *Massachusetts Natural Heritage Atlas*, available from the Natural Heritage & Endangered Species Program in book and CD formats.

BioMap and Living Waters are conservation planning tools and do not, in any way, supplant the Estimated and Priority Habitat Maps which have regulatory significance. Unless and until the combined BioMap and Living Waters vision is fully realized, we must continue to protect all populations of our state-listed species and their habitats through environmental regulation.

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Understanding Core Habitat Summaries

Following the BioMap and Living Waters Core Habitat species and community lists, there is a descriptive summary of each Core Habitat that occurs in your city or town. This summary highlights some of the outstanding characteristics of each Core Habitat, and will help you learn more about your city or town's biodiversity. You can find out more information about many of these species and natural communities by looking at specific ***fact sheets*** at www.nhesp.org.

Next Steps

BioMap and Living Waters were created in part to help cities and towns prioritize their land protection efforts. While there are many reasons to conserve land – drinking water protection, recreation, agriculture, aesthetics, and others – BioMap and Living Waters Core Habitats are especially helpful to municipalities seeking to protect the rare species, natural communities, and overall biodiversity within their boundaries. Please use this report and map along with the rare species and community fact sheets to appreciate and understand the biological treasures in your city or town.

Protecting Larger Core Habitats

Core Habitats vary considerably in size. For example, the average BioMap Core Habitat is 800 acres, but Core Habitats can range from less than 10 acres to greater than 100,000 acres. These larger areas reflect the amount of land needed by some animal species for breeding, feeding, nesting, overwintering, and long-term survival. Protecting areas of this size can be very challenging, and requires developing partnerships with neighboring towns.

Prioritizing the protection of certain areas within larger Core Habitats can be accomplished through further consultation with Natural Heritage Program biologists, and through additional field research to identify the most important areas of the Core Habitat.

Additional Information

If you have any questions about this report, or if you need help protecting land for biodiversity in your community, the Natural Heritage & Endangered Species Program staff looks forward to working with you.

Contact the Natural Heritage & Endangered Species Program:

by Phone *508-792-7270, Ext. 200*

by Fax: *508-792-7821*

by Email: *natural.heritage@state.ma.us*.

by Mail: *North Drive*
Westborough, MA 01581

The GIS datalayers of BioMap and Living Waters Core Habitats are available for download from MassGIS: www.mass.gov/mgis

Check out www.nhesp.org for information on:

- Rare species in your town
- Rare species fact sheets
- BioMap and Living Waters projects
- Natural Heritage publications, including:
  - Field guides
  - Natural Heritage Atlas, and more!

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BioMap: Species and Natural Communities

Newbury

Core Habitat BM5

Natural Communities

Common Name	Scientific Name	Status
Estuarine Intertidal: Salt Marsh		Vulnerable
Marine Intertidal: Flats		Secure

Plants

Common Name	Scientific Name	Status
Seabeach Dock	*Rumex pallidus*	Threatened
Seabeach Needlegrass	*Aristida tuberculosa*	Threatened

Vertebrates

Common Name	Scientific Name	Status
Common Tern	*Sterna hirundo*	Special Concern
King Rail	*Rallus elegans*	Threatened

Core Habitat BM11

Natural Communities

Common Name	Scientific Name	Status
Estuarine Intertidal: Brackish Tidal Marsh		Critically Imperiled

Plants

Common Name	Scientific Name	Status
Long's Bulrush	*Scirpus longii*	Threatened

Vertebrates

Common Name	Scientific Name	Status
American Bittern	*Botaurus lentiginosus*	Endangered
Blanding's Turtle	*Emydoidea blandingii*	Threatened
Blue-spotted Salamander	*Ambystoma laterale*	Special Concern
Four-toed Salamander	*Hemidactylium scutatum*	Special Concern

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BioMap: Species and Natural Communities

Newbury

Least Bittern	*Ixobrychus exilis*	Endangered
Spotted Turtle	*Clemmys guttata*	Special Concern
Wood Turtle	*Clemmys insculpta*	Special Concern

Core Habitat BM12

Natural Communities

Common Name	Scientific Name	Status
Estuarine Intertidal: Salt Marsh		Vulnerable
Maritime Dune Community		Imperiled

Plants

Common Name	Scientific Name	Status
Seabeach Needlegrass	*Aristida tuberculosa*	Threatened

Invertebrates

Common Name	Scientific Name	Status
New England Siltsnail	*Cincinnatia winkleyi*	Special Concern

Vertebrates

Common Name	Scientific Name	Status
American Bittern	*Botaurus lentiginosus*	Endangered
Common Moorhen	*Gallinula chloropus*	Special Concern
Common Tern	*Sterna hirundo*	Special Concern
Eastern Spadefoot	*Scaphiopus holbrookii*	Threatened
Grassland Bird Habitat		----------
King Rail	*Rallus elegans*	Threatened
Least Bittern	*Ixobrychus exilis*	Endangered
Least Tern	*Sterna antillarum*	Special Concern
Pied-Billed Grebe	*Podilymbus podiceps*	Endangered
Piping Plover	*Charadrius melodus*	Threatened
Roseate Tern	*Sterna dougallii*	Endangered

BioMap: Species and Natural Communities

Newbury

Upland Sandpiper	*Bartramia longicauda*	Endangered
Vesper Sparrow	*Pooecetes gramineus*	Threatened

Core Habitat BM15

Plants

Common Name	Scientific Name	Status
Small Site for Rare Plant		

Core Habitat BM16

Natural Communities

Common Name	Scientific Name	Status
Estuarine Intertidal: Salt Marsh		Vulnerable

Core Habitat BM45

Natural Communities

Common Name	Scientific Name	Status
Estuarine Intertidal: Salt Marsh		Vulnerable

Plants

Common Name	Scientific Name	Status
Estuary Arrowhead	*Sagittaria montevidensis*	Endangered
Estuary Beggar-Ticks	*Bidens hyperborea var colpophila*	Endangered

Invertebrates

Common Name	Scientific Name	Status
Coastal Marsh Snail	*Littoridinops tenuipes*	Special Concern
New England Siltsnail	*Cincinnatia winkleyi*	Special Concern

Core Habitat BM51

Natural Communities

Common Name	Scientific Name	Status
Estuarine Intertidal: Salt Marsh		Vulnerable

BioMap: Species and Natural Communities

Newbury

Core Habitat BM57

Natural Communities

Common Name	Scientific Name	Status
Estuarine Intertidal: Salt Marsh		Vulnerable

Core Habitat BM61

Natural Communities

Common Name	Scientific Name	Status
Estuarine Intertidal: Salt Marsh		Vulnerable

Core Habitat BM64

Natural Communities

Common Name	Scientific Name	Status
Estuarine Intertidal: Salt Marsh		Vulnerable

Core Habitat BM77

Vertebrates

Common Name	Scientific Name	Status
Spotted Turtle	*Clemmys guttata*	Special Concern

Core Habitat BM48, BM51, BM57, BM61 and BM64-68

Communities

Estuarine Intertidal: Brackish Tidal Marsh		Critically Imperilec

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BioMap: Core Habitat Summaries

Newbury

Core Habitat BM5

This Core Habitat encompasses the broad estuary at the mouth of the Merrimack River, as well as the salt marshes behind the barrier beaches at the north end of Plum Island and the south end of Salisbury Beach. These marshes are part of the largest contiguous acreage of Salt Marsh in New England. The Core Habitat also includes numerous islands, tidal creeks, and extensive tidal flats, most notably the Joppa Flats. Together these valuable habitats support a wide variety of birds, including overwintering or migratory waterfowl, shorebirds, and raptors. The shorelines within this Core Habitat are also important for their rare plant populations, including the state's largest population of Seabeach Dock. Permanent protection of this critical biological site is needed.

Natural Communities

This Core Habitat is part of a complex that includes the 17,000 acres of Estuarine Intertidal Salt Marsh of the Parker River. This is the largest contiguous acreage of Salt Marsh in New England. The Salt Marsh community type is a graminoid-dominated, tidally flooded coastal community with several vegetative zones. Salt Marshes form in areas subject to oceanic tides, but sheltered from wave energy. Here the size of the Salt Marsh alone assures an abundance of microhabitats and mix of conditions that are important for plants and animals alike. This Salt Marsh is surrounded by many other high-quality natural communities including barrier beaches and the entire array of tidal marshes and flats.

Plants

Shoreline areas of this Core Habitat contain the largest population of Seabeach Dock in Massachusetts, as well as one of the best populations of Seabeach Needlegrass.

Vertebrates

The Merrimack River estuary and its associated tidal creeks and salt marshes provide important wintering and migration habitat for many species of waterfowl, especially black ducks and many diving ducks. The extensive tidal flats are important habitats for migrating shorebirds. King Rails have been documented during the breeding season in the emergent marshes at Woodbridge Island. The salt marshes in Salisbury represent one of the few places in the state where small colonies of salt marsh-nesting Common Terns occur. These marshes provide breeding habitat for Saltmarsh Sharp-tailed Sparrows, and may also provide migration and wintering habitat for Short-eared Owls and Northern Harriers, as well as for two species of arctic-nesting raptors, the Snowy Owl and Rough-legged Hawk. The conservation need here is the permanent protection of these salt marshes, tidal creeks, and small islands, as well as the undeveloped uplands that border them and the Merrimack River.

BioMap: Core Habitat Summaries

Newbury

Core Habitat BM11

This large Core Habitat encompasses much of the upper Parker River and surrounding wetlands, as well as the Crane Pond and Martin Burns Wildlife Management Areas. It provides diverse habitats for wetland, forest, and shrubland birds, and, if protected, could conserve significant populations of five rare species of turtles and salamanders. The marshes in the Core Habitat also support a large population of the globally rare Long's Bulrush.

Natural Communities

In Newbury, this Core Habitat contains a small part of the most pristine Brackish Tidal Marsh in the state. Although there are a few signs of disturbances including invasive species and past ditching, this marsh is well-buffered by 800 acres of naturally forested land. The Brackish Tidal Marsh community is often found in the brackish stretches of coastal rivers, and consists of mixed herbaceous vegetation that is flooded by daily tides. The community is structurally diverse, including high marsh and low marsh.

Plants

A large population of the globally rare Long's Bulrush grows within the marshes in this Core Habitat.

Vertebrates

This Core Habitat contains several documented observations of state-protected rare amphibians and reptiles. It is an area where long-term preservation of significant populations of Blanding's, Wood, and Spotted Turtles, as well as Blue-spotted and Four-toed Salamanders may be possible. It is characterized by a good interspersion of vernal pools, other wetlands, and undeveloped uplands, and generally has good riparian connectivity.

Small areas of the Core Habitat contain freshwater marsh that provide habitat for American Bitterns and Least Bitterns. Over time, local wetlands created or modified by beavers may provide additional habitat for American Bitterns and other wetland birds. This Core Habitat also contains important breeding habitat for many species of forest and shrubland birds characteristic of the northeastern Massachusetts Coastal Plain.

BioMap: Core Habitat Summaries

Newbury

Core Habitat BM12

This large Core Habitat encompasses some of the most important coastal wildlife habitats in Massachusetts, and is especially valuable breeding, migration, and wintering habitat for a wide variety of birds. It includes the entire undeveloped southern and central portions of Plum Island, with a continuous sandy beach and a large Maritime Dune system. Also on Plum Island are several large impounded freshwater marshes and pools that are managed for waterfowl, marsh birds, and migrating shorebirds. The Core Habitat contains part of the largest contiguous acreage of Salt Marsh in New England, which, along with the other maritime habitats here, supports a diversity of Massachusetts' rare plants and animals.

Natural Communities

This Core Habitat is part of a complex that includes the 17,000 acres of Estuarine Intertidal Salt Marsh of the Parker River. This is the largest contiguous acreage of Salt Marsh in New England. The Salt Marsh community type is a graminoid-dominated, tidally flooded coastal community with several vegetative zones. Salt Marshes form in areas subject to oceanic tides, but sheltered from wave energy. Here the size of the Salt Marsh alone assures an abundance of microhabitats and mix of conditions that are important for plants and animals alike. This Salt Marsh is surrounded by many other high-quality natural communities including barrier beaches and the entire array of tidal marshes and flats. For example this Core Habitat contains the fourth largest Maritime Dune system in the state. The Maritime Dune community consists of patches of herbaceous plants interspersed with areas of bare sand and shrubs. It occurs on windswept dunes within the salt spray zone, and often grades into shrubland or woodlands on more sheltered back dunes. Here the 900 acres of Beach Grass and Golden Heather are poorly buffered from development. This rare natural community is often heavily disturbed by human impacts and invasive plant species.

Plants

Two of the best populations of Seabeach Needlegrass in the state grow along stable dunes within this Core Habitat.

Invertebrates

This Core Habitat includes a brackish marsh along the Egypt River in Ipswich that is habitat for the rare New England Siltsnail. Several other brackish marshes that are potential habitat for the New England Siltsnail are found within this large Core Habitat.

Vertebrates

The continuous sandy beach that extends along the entire seaward side of Plum Island provides important breeding habitat for Piping Plovers and Least Terns. Small colonies of Common Terns nest on small, low, sandy islands within the broad expanses of salt marsh. These salt marshes provide regionally important breeding habitat for Sharp-tailed and Seaside Sparrows and migration habitat for rails. The estuarine channels and mudflats associated with the Parker River and Plum Island Sound provide important migration and wintering habitat for Black Ducks and other waterfowl. Several locally rare species of marsh birds, including Pied-billed Grebe, Least and American Bittern, King Rail, and Common Moorhen, use the managed freshwater impoundments on Plum Island as migration habitat and, occasionally, for breeding. Recently, Northern Harriers have nested near one of these wetlands.

This Core Habitat also contains several types of habitats used by large numbers of migrating shorebirds, especially in summer and early fall. These habitats include the beaches and intertidal flats on the ocean-facing side of Plum Island, salt pans (shallow pools) scattered through the salt marshes, and managed impoundments on Plum Island that are periodically drawn down to shallow water or exposed moist soil. Upland Sandpipers have been known to nest in managed grassy areas along the edges of the Plum Island Airport and adjacent high salt marsh. Vesper Sparrows have been known to breed in the extensive dune habitats on Plum Island. Breeding populations of Eastern Spadefoot toads are also known from the sandy areas near interdunal swales.

Core Habitat BM16

Natural Communities

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Core Habitat BM45

Natural Communities

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Plants

This Core Habitat contains the only current population in the state of the Endangered Estuary Arrowhead, a species restricted to the intertidal zone of estuarine rivers.

Invertebrates

This Core Habitat includes a brackish marsh along the Mill River, within the William Forward Wildlife Management Area, that is habitat for the New England Siltsnail and the Coastal Marsh Snail. Other brackish marshes within this Core Habitat are potential habitat for these rare snail species, and conservation efforts should include protection of all these marshes.

Core Habitat BM51

Natural Communities

This Core Habitat is part of a complex that includes the 17,000 acres of Estuarine Intertidal Salt Marsh of the Parker River. This is the largest contiguous acreage of Salt Marsh in New England. The Salt Marsh community type is a graminoid-dominated, tidally flooded coastal community with several vegetative zones. Salt Marshes form in areas subject to oceanic tides, but sheltered from wave energy. Here the size alone assures an abundance of microhabitats and mix of conditions that are important for plants and animals alike. This Salt Marsh is surrounded by many other high-quality natural communities including barrier beaches and the entire array of tidal marshes and flats.

Core Habitat BM57

Natural Communities

This Core Habitat is part of a complex that includes the 17,000 acres of Estuarine Intertidal Salt Marsh of the Parker River. This is the largest contiguous acreage of Salt Marsh in New England. The Salt Marsh community type is a graminoid-dominated, tidally flooded coastal community with several vegetative zones. Salt Marshes form in areas subject to oceanic tides, but sheltered from wave energy. Here the size alone assures an abundance of microhabitats and mix of conditions that are important for plants and animals alike. This Salt Marsh is surrounded by many other high-quality natural communities including barrier beaches and the entire array of tidal marshes and flats.

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BioMap: Core Habitat Summaries

Newbury

Core Habitat BM61

Natural Communities

This Core Habitat is part of a complex that includes the 17,000 acres of Estuarine Intertidal Salt Marsh of the Parker River. This is the largest contiguous acreage of Salt Marsh in New England. The Salt Marsh community type is a graminoid-dominated, tidally flooded coastal community with several vegetative zones. Salt Marshes form in areas subject to oceanic tides, but sheltered from wave energy. Here the size alone assures an abundance of microhabitats and mix of conditions that are important for plants and animals alike. This Salt Marsh is surrounded by many other high-quality natural communities including barrier beaches and the entire array of tidal marshes and flats.

Core Habitat BM64

Natural Communities

This Core Habitat is part of a complex that includes the 17,000 acres of Estuarine Intertidal Salt Marsh of the Parker River. This is the largest contiguous acreage of Salt Marsh in New England. The Salt Marsh community type is a graminoid-dominated, tidally flooded coastal community with several vegetative zones. Salt Marshes form in areas subject to oceanic tides, but sheltered from wave energy. Here the size alone assures an abundance of microhabitats and mix of conditions that are important for plants and animals alike. This Salt Marsh is surrounded by many other high-quality natural communities including barrier beaches and the entire array of tidal marshes and flats.

Core Habitat BM77

Vertebrates

This Core Habitat encompasses the headwaters of the Mill River in Rowley, including Bachelder and Great Swamp Brooks. The forested and shrub wetlands, vernal pools, and adjacent uplands here provide significant habitat for Spotted Turtles. This area provides apparently suitable habitat for Blue-spotted Salamanders as well. Valuable breeding habitats for forest and shrubland birds characteristic of the northeastern Massachusetts Coastal Plain are also present.

Core Habitat BM48, BM51, BM57, BM61 and BM64-68

Natural Communities

Although the marsh in these Core Habitats shows a few signs of disturbances, including invasive species and past ditching, it is the most pristine Brackish Tidal Marsh identified in the state. The Brackish Tidal Marsh community is often found in the brackish stretches of coastal rivers, and consists of mixed herbaceous vegetation that is flooded by daily tides. The community is structurally diverse, including high marsh and low marsh. Here the marsh is well-buffered by 800 acres of naturally forested land.

Living Waters: Species and Habitats

Newbury

Core Habitat LW335

Exemplary Habitats

Common Name	Scientific Name	Status
Fish Habitat		----------

Invertebrates

Common Name	Scientific Name	Status
Coastal Marsh Snail	*Littoridinops tenuipes*	Special Concern
New England Siltsnail	*Cincinnatia winkleyi*	Special Concern

Fishes

Common Name	Scientific Name	Status
Bridle Shiner	*Notropis bifrenatus*	Special Concern

Living Waters: Core Habitat Summaries

Newbury

Core Habitat LW335

This section of the Mill River is Core Habitat for two rare brackish water snails, the Coastal Marsh Snail and the New England Siltsnail. The river also supports one of six known populations of Bridle Shiner in the Parker Watershed. This fish Species of Special Concern is thought to be in decline in eastern Massachusetts as it was found at only 23% of its former sites in recent surveys. The Bridle Shiner feeds on small aquatic insects and other invertebrates, and is an important part of the freshwater ecosystem as prey for larger fishes.

The Mill River also contains spawning (breeding) habitats for Rainbow Smelt, an anadromous fish that migrates from coastal waters into fresh waters to spawn. Once historically abundant, Rainbow Smelt has declined due to dams obstructing its passage, and excess sediment runoff degrading its spawning habitats. Controlling sediment runoff from developed areas, and protecting the unprotected and undeveloped areas will help maintain the quality of this habitat.

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Natural Heritage &
Endangered Species Fund

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